User Manual

200Ah
INVERTER / CHARGER

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1. ABOUT MANUAL

PURPOSE

This manual describes the assembly, installation, operation and troubleshooting of this unit. Please read this manual carefully before installations and operations. Keep this manual for future reference.

SCOPE

This manual provides safety and installation guidelines as well as information on tools and wiring

2. SAFETY INSTRUCTION

WARNING: This chapter contains important safety and operating instructions. Read and keep this manual for future reference.

1. Before using the unit, read all instructions and cautionary markings on the unit, the batteries and all appropriate sections of this manual.
2. **CAUTION** –To reduce risk of injury, charge only deep-cycle lead acid type rechargeable batteries. Other types of batteries may burst, causing personal injury and damage.
3. Do not disassemble the unit. Take it to a qualified service centre when service or repair is required. Incorrect re-assembly may result in a risk of electric shock or fire.
4. To reduce risk of electric shock, disconnect all wirings before attempting any maintenance or cleaning. Turning off the unit will not reduce this risk.
5. **CAUTION** – Only qualified personnel can install this device with battery.
6. **NEVER** charge a frozen battery.
7. For optimum operation of this inverter/charger, please follow required spec to select appropriate cable size. It's very important to correctly operate this inverter/charger.
8. Be very cautious when working with metal tools on or around batteries. A potential risk exists to drop a tool to spark or short circuit batteries or other electrical parts and could cause an explosion.
9. Please strictly follow installation procedure when you want to disconnect AC or DC terminals. Please refer to INSTALLATION section of this manual for the details.
10. Fuses are provided as over-current protection for the battery supply.
11. GROUNDING INSTRUCTIONS –This inverter/charger should be connected to a permanent grounded wiring system. Be sure to comply with local requirements and regulation to install this inverter.
12. NEVER cause AC output and DC input short circuited. Do NOT connect to the mains when DC input short circuits.

Warning!! Only qualified service persons are able to service this device. If errors still persist after following troubleshooting table, please send this inverter/charger back to local dealer or service centre for maintenance.

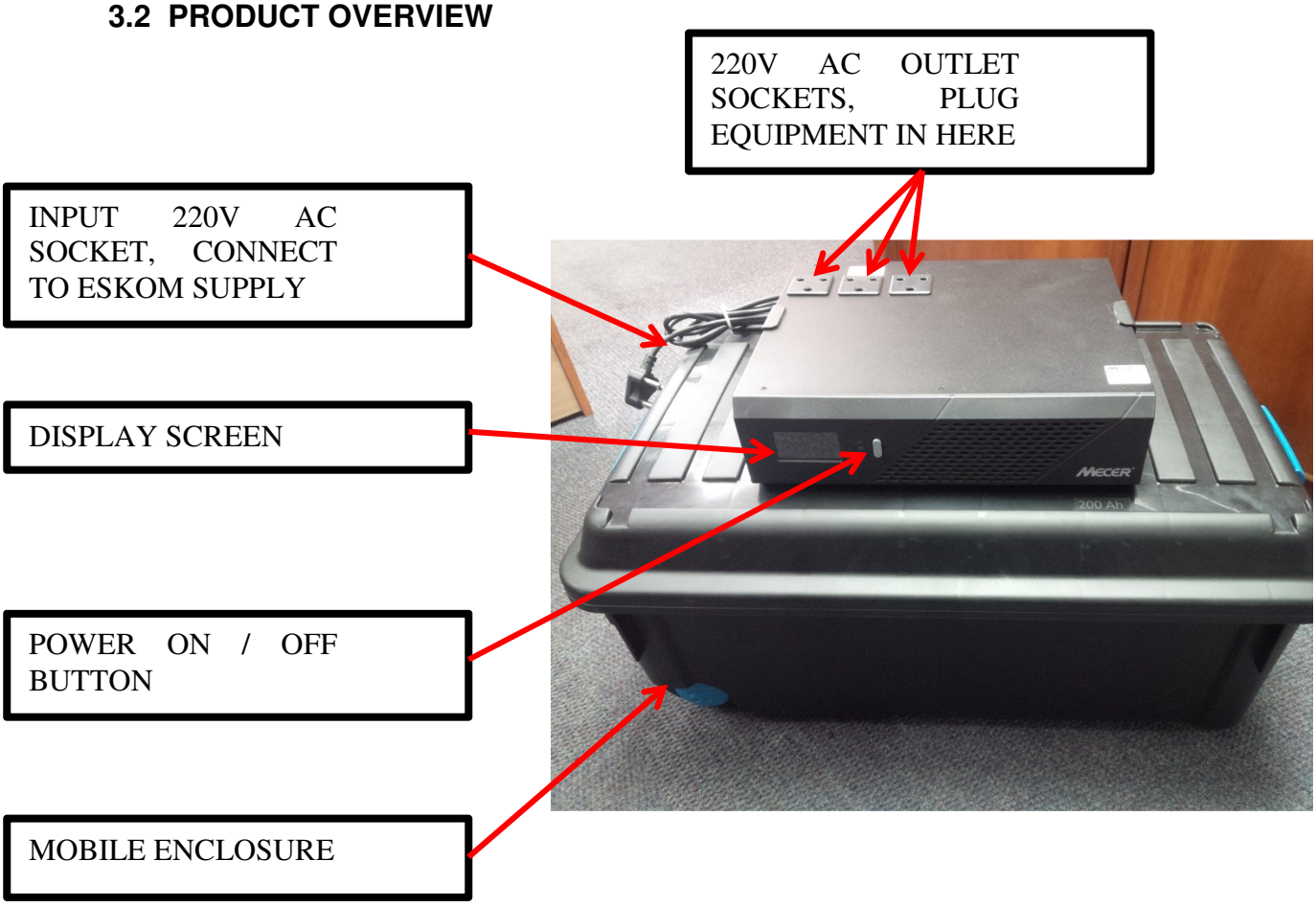
3. INTRODUCTION

This is a multi-function inverter/charger, combining functions of inverter, battery charger to offer uninterruptible power support with portable size.

3.1 FEATURES

- Modified sine wave inverter
- Configurable input voltage range for home appliances and personal computers via inverter socket outlets
- Compatible to mains voltage
- Auto restart while AC is recovering
- Overload/ Over temperature/ short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function
- Portable closure (see appendix A)

3.2 PRODUCT OVERVIEW


220V AC OUTLET SOCKETS, PLUG EQUIPMENT IN HERE
INPUT 220V AC SOCKET, CONNECT TO ESKOM SUPPLY
DISPLAY SCREEN
POWER ON / OFF BUTTON
MOBILE ENCLOSURE
MECER
200 Ah

4. INSTALLATION

4.1 UNPACKING INSPECTION

Before using, please inspect the unit. Be sure that nothing inside the package is damaged. You should have received the following items inside of package:

- The unit x 1 with enclosure
- User manual x 1

4.2 PREPARATION

Unit must be place on clear space without any interruption near wall socket for charging purposes

4.3 OPERATION

This modified sine wave Inverter with a built-in battery charger is suitable for most simple loads and provides an economical way to get instant AC power anywhere and at any time as long as the supplied battery is fully charged. The modified sine wave inverter converts power from 12VDC to 230VAC/50Hz. This inverter is specifically suitable for small power back-up installations. High frequency PWM technology ensures a compact unit providing high reliability and good performance. The inverter/charger/battery back-up system has a robust design and is quiet and portable. It can therefore be operated in almost any internal environment. The unit has some start up capability, protection circuits against short circuit, reverse polarity and over load. The Inverter also incorporates a 3 stage PWM 10 or 20A (Selectable) battery charger. If AC is present the built-in battery charger will recharge a lead acid or lead calcium battery within a few hours and then switches to float charge. The unit is now on standby for a possible power failure. The system has a fast and seamless changeover switch and is therefore suitable for automated backup in certain applications.

How to use

- Simply plug your power supply cable into the wall socket
- Plug your TV, Decoder, Laptop etc. into the 220v Ac plugs of the power backup system
- When the power goes off, all appliances connected to the system will continue to play
- Will play appliances and burn LED lights for +/- 6 hours
- Warranty as per battery and inverter suppliers
- Inverter can be moved around the house or office with portable closure (see appendix A)
- Can be upgraded to stand alone system with solar panel and regulator
- Not suitable for high drain appliances

5. TECHNICAL SPECIFICATION

INVERTER

MODEL	IVR-1200LBKS	IVR-2400LBKS
CAPACITY	1200VA/ 720W	2400VA/ 1440W
INPUT		
Voltage	230 VAC	
Acceptable Voltage Range	90-280 VAC	
Frequency	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	± 10%	
Efficiency (Peak)	82%	85%
Transfer Time	20 ms typical	
Waveform (Batt. Mode)	Simulated sine wave	
BATTERY & AC CHARGER		
Battery Voltage	12 VDC	24 VDC
Floating Charge Voltage	13.7 VDC ±2%	27.4 VDC ±2%
Low Battery Alarm Voltage	10.2Vdc ±2%	20.4Vdc ±2%
Shutdown Voltage	9.9Vdc ±2%	19.8Vdc ±2%
Overcharge Protection	15.0Vdc ±2%	30.0Vdc ±2%
Maximum Charge Current	10 A or 20 A (Selectable)	

BATTERY

12 Volt 102 Ah (C_{20}, 25°C) Dry Weight : 19kg, Wet Weight: 26.5 kg

Constant Power Discharge Data (Watts per cell at 25°C)

VPC	5 Min	10 Min	15 Min	20 Min	30 Min	45 Min	60 Min
1.60	495	358	280	227	172	142	113
1.65	485	350	272	221	169	142	113
1.70	474	341	264	213	166	141	113
1.75	440	318	250	200	163	138	112

Constant Current Discharge Data (Amps at 25°C)

VPC	5 Min	10 Min	15 Min	20 Min	30 Min	45 Min	60 Min
1.60	285	200	154	124	92.2	75.5	61.8
1.65	276	193	150	121	90.7	75.0	59.4
1.70	266	186	143	114	87.9	74.1	58.9
1.75	242	172	134	106	86.0	72.2	58.0

Constant Current Discharge Data (Amps at 25°C)

VPC	2 Hour	3 Hour	5 Hour	10 Hour	20 Hour	72 Hour	100 Hour
1.75	35.0	25.1	16.3	9.18	5.10	1.45	1.05
1.80	33.9	24.4	15.9	8.91	4.83	1.42	1.01
1.85	32.5	23.5	15.4	8.60	4.62	1.38	0.99

Portable Closure	
Dimension W*D*H	**750*450*450**
Net weight	**65 kg**

Appendix A